User's Manual

February 2011

EditRec

Protocol for Linear Editing

EVS

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Table of Contents

TABLE OF CONTENTS II
1. INTRODUCTION 3
2. EDITREC SETUP PROCEDURE 5
2.1 MULTICAM INSTALLATION 5
2.2 EVS SERVER CONFIGURATION 5
2.2.1 Hardware Connections 5
2.2.2 EVS Menu Configuration 7
2.2.3 Starting Application 7
3. EDITREC OPERATING 8
3.1 EDITREC MENUS 8
3.1.1 EditRec Settings 8
3.2 SPECIAL FUNCTIONS 13
3.2.1 Undo 13
3.2.2 Non Linear Editing 13
4. THIRD PARTY CONFIGURATIONS 14
4.1 BVE 9100 14
4.1.1 Preroll 14
4.1.2 Port Assignment 14
4.1.3 IDC Parameter 14
4.1.4 Audio Channel Assign Configuration 16
4.2 PLUGIN EDITOR/SONY SWITCHER 17
4.2.1 Sony Switcher 17
4.2.2 Plug-In Editor 17

1. Introduction

This document describes how to configure EVS server in linear editing environments. This document reflects the status of Multicam version 10.03 and higher and its current limitations. Multicam 10 release version will be the first version to release the EditRec feature.

EditRec protocol is used on EVS server in order to be controlled by one editing console, like Sony BVE2000, BVE9100, Sony Plug In Editor switcher interface or Editware Fastrack. This name has been used to differentiate it from the already existing “Sony BVW” protocol that is limited in EVS server to the “read-only” command subset. EditRec protocol is implementing all required Sony BVW protocol commands required for linear editing.

Two diagrams show the typical configurations.

1. Stand-alone mode: without external video switcher and audio mixer. This setup is used to demonstrate basic linear editing by using only one source channel directly used as record signal. One IPDirector can be used to control the channel loading and to monitor the work in progress.
2. Edit suite mode: in setup with video switcher and audio mixer, as usually present in editing suite. One additional server on XNET is added to the configuration to demonstrate that sources can be loaded on Edit server from this additional server (Playout Server) and that the edit playlist can be seen and played out from this server (Playout server) even while editing is still in progress on the Edit server. Version 10.03 (or higher) has also to be used on this additional server. One IPDirector can be used to control channel loading and monitor the work in progress.

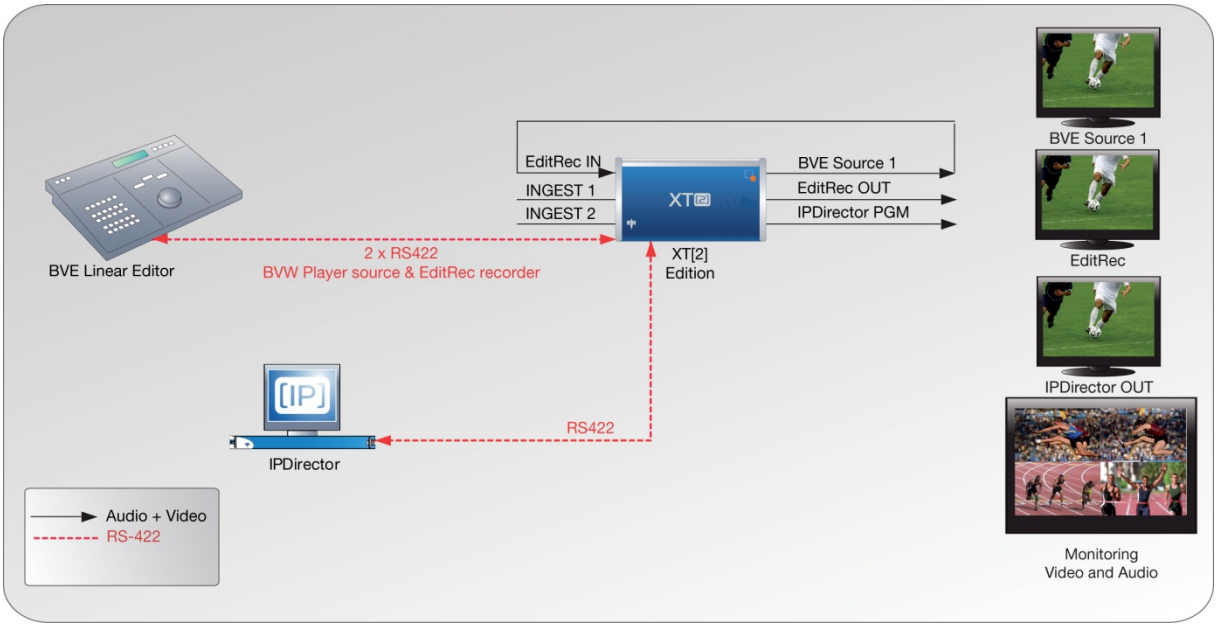


Figure 1: Stand-Alone Setup

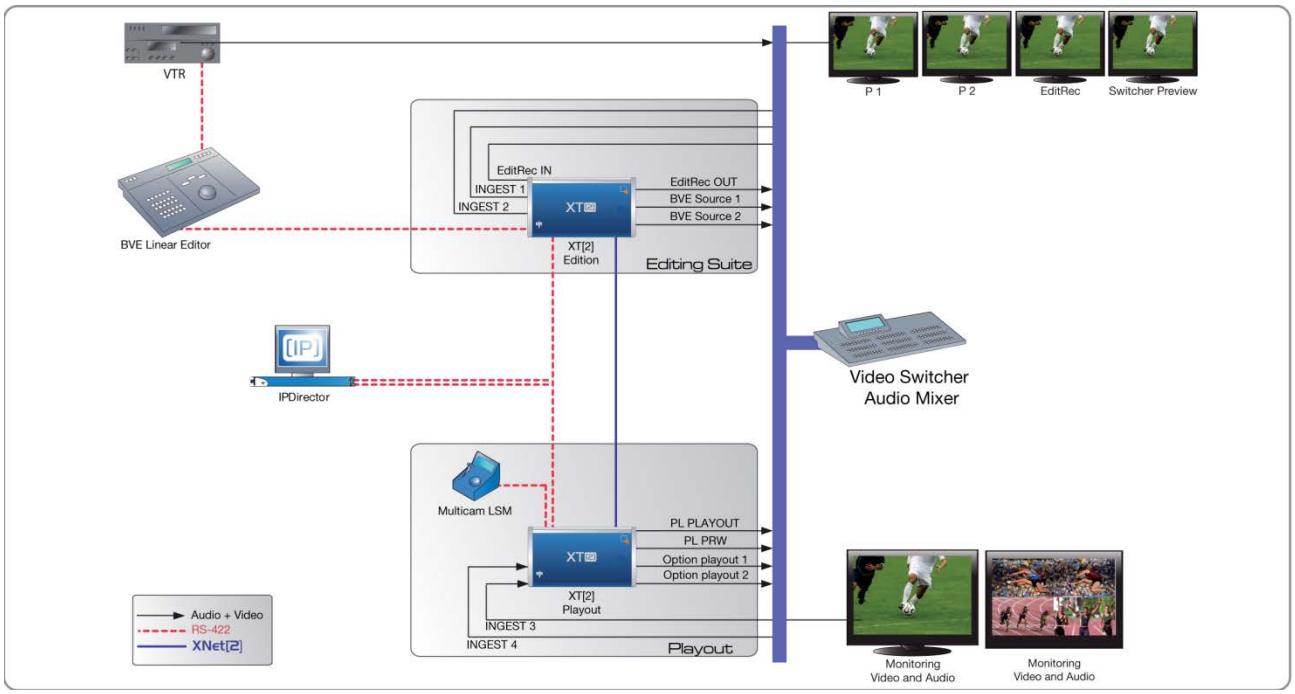


Figure 2: Edit Suite Setup

2. EditRec Setup Procedure

2.1 MULTICAM INSTALLATION

Use the standard Multicam 10 installation procedure:

- Create usb key
- Install on target EVS Server (format if required, or upgrade)
- Remove usb key
- Restart the server

The version can also be installed by XnetMonitor.

2.2 EVS SERVER CONFIGURATION

2.2.1 HARDWARE CONNECTIONS

One EditRec channel is a combination of one Recorder Channel (REC) and one Player Channel (PGM).

SERIAL CONNECTIONS:

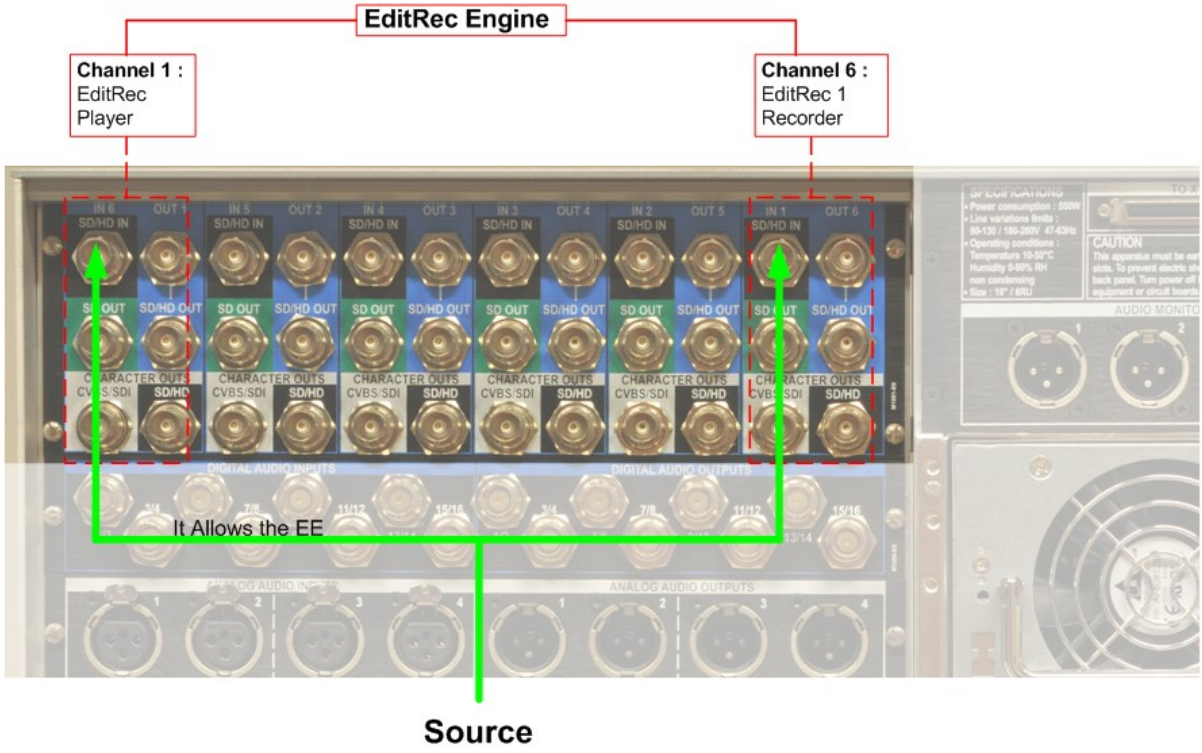
- Use one Server serial port for EditRec control in Editrec protocol, coming from Linear Edit Controller
- Other serial ports have to be connected according configuration settings in EVS menu.

Example:

- In typical configurations, 2 other SONY BVW channels are used by Linear Edit Controller as source channels (VTR source replacement).
- If IPDirector is also present, it can also be connected.

VIDEO CONNECTIONS:

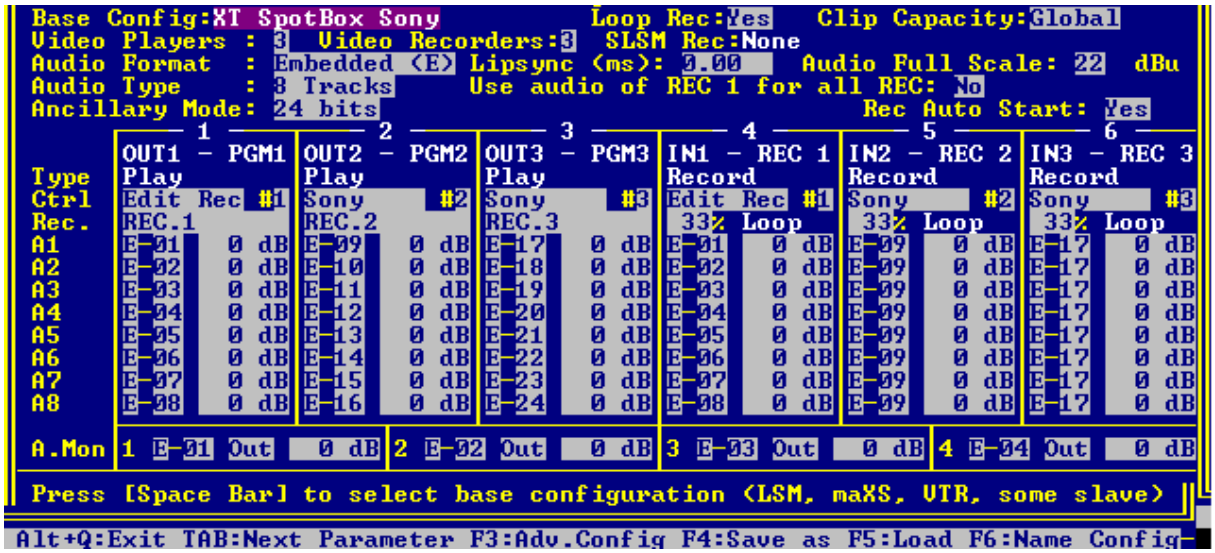
The source signal has to be connected to the video input of the EditRec recorder channel AND to the video input of the EditRec Player Channel (needed for the EE feature). Usually this is the signal coming from a switcher output channel, mixing all the sources signals, or in stand-alone version coming directly from a source VTR.



AUDIO CONNECTIONS:

- Easiest way is to work with Embedded audio format. No additional audio connections are required in this case.
- If digital/analog audio is required (i.e. an external Audio mixer is required), AES XLR or BNC connections are possible, provided the server has the correct audio backplane configuration. Use the correct input and output connector as required.

2.2.2 EVS MENU CONFIGURATION


Base Config:XT SpotBox Sony
Loop Rec:Yes
Clip Capacity:Global
Video Players : 3
Video Recorders:3
SLSM Rec:None
Audio Format : Embedded (E)
Lipsync (ms): 0.00
Audio Full Scale: 22 dBu
Audio Type : 8 Tracks
Use audio of REC 1 for all REC: No
Ancillary Mode: 24 bits
Rec Auto Start: Yes
1 OUT1 - PGM1 Play Edit Rec #1 REC.1 E-01 0 dB E-02 0 dB E-03 0 dB E-04 0 dB E-05 0 dB E-06 0 dB E-07 0 dB E-08 0 dB
2 OUT2 - PGM2 Play Sony #2 REC.2 E-09 0 dB E-10 0 dB E-11 0 dB E-12 0 dB E-13 0 dB E-14 0 dB E-15 0 dB E-16 0 dB
3 OUT3 - PGM3 Play Sony #3 REC.3 E-17 0 dB E-18 0 dB E-19 0 dB E-20 0 dB E-21 0 dB E-22 0 dB E-23 0 dB E-24 0 dB
4 IN1 - REC 1 Record Edit Rec #1 33% Loop E-01 0 dB E-02 0 dB E-03 0 dB E-04 0 dB E-05 0 dB E-06 0 dB E-07 0 dB E-08 0 dB
5 IN2 - REC 2 Record Sony #2 33% Loop E-09 0 dB E-09 0 dB E-09 0 dB E-09 0 dB E-09 0 dB E-09 0 dB E-09 0 dB E-09 0 dB
6 IN3 - REC 3 Record Sony #3 33% Loop E-17 0 dB E-17 0 dB E-17 0 dB E-17 0 dB E-17 0 dB E-17 0 dB E-17 0 dB E-17 0 dB
Type
Ctrl
Rec.
A1
A2
A3
A4
A5
A6
A7
A8
A.Mon 1 E-01 Out 0 dB 2 E-02 Out 0 dB 3 E-03 Out 0 dB 4 E-04 Out 0 dB
Press [Space Bar] to select base configuration (LSM, maXS, VTR, some slave)
Alt+Q:Exit TAB:Next Parameter F3:Adv.Config F4:Save as F5:Load F6:Name Config

Here is the typical basic configuration for a 6ch Server.

You must respect the following restrictions:

- "Spotbox Sony" as basic configuration.
- EditRec has to be declared for one PGM and one REC (no special pairing is required), and use the same serial connection number.
- No restrictions for other channels. Usually PGM2 and PGM3 are controlled in Sony protocol by Linear Edit Controller as "source" VTR. This can be in primary or secondary control (CTRL+F1).

  With some linear controllers, it is also possible to use VDCP control allowing to list and load clips present on the server as source for edit (if The VDCP Controller is a Sony Switcher, it is necessary to add a parameter in EXEC.bat (Contact the support)).
- "2, 4, 8 audio" configuration is possible.

EditRec can be used in SD or HD formats (exept 1080p), Pal or NTSC. All codec are supported.

2.2.3 STARTING APPLICATION

Proceed to the following actions at application startup:

1. Clear Video Disk (optional)
2. Verification of Genlock signal validity
3. Verification of TC in signal validity.

3. EditRec Operating

3.1 EDITREC MENUS

Various menus have been implemented to configure the EditRec, load Playlist onto the Edit Recorder and monitor various processes.

Do not forget that the M10.03 version is still working with LSM Playlist objects, Each audio track can be edited separately .Playlist are filled with clips automatically created during the recording phase of edit. The server will refuse any additional edit if the number of existing clips used in all local playlists (for EditRec and for other users) exceeds 5400 clips.

3.1.1 EDITREC SETTINGS

This page of the Setup configuration module allows changing several behaviors of EditRec Channel.

```
                              SETUP CONFIGURATION
Sh+ESC:VGA EXPLORER   (SH)F3:RESET(ALL)   F6:KW1 F7:KW2 F8:SRCH F9:CLIP F10:PLST

 PROTOCOL: EditRec 1 Setting
 Time Code Settings                        Playlist Settings
 Start TC:   10:00:00;00  DF  <ENTER>      Load PL:    60 (LSM ID)  <ENTER>
 Preroll:    05s00fr                       Rename PL:  MyEditPLName <ENTER>
 Edit TC settings:                         Default PL: 60
   Serial Sony LTC:  Edit TC               Clear PL:   60 EDL + CLIPS <ENTER>
   Serial Sony VITC: Edit TC
   Insert TC in SDI: YES EDIT TC <ENTER>   CLEAR UNUSED EDITREC CLIPS <ENTER>
 User TC of created clips : Edit TC        CLOSE EDIT: <ENTER>

 OSD settings                              EE       : OFF  <ENTER>
 Super        : YES                        Stop behavior : PB
 Display Sel. : TC Status Name             Clip Name: EditR
 TC H-Pos     : 4    Name H-Pos: 0         Clip VARID:EditR6789012345678901234
 TC V-Pos     : 10   Name V-Pos: 0
                                           Audio settings:
 Non-linear Editing at current TC:         Edit Audio Fade:  NO
 Insert Black:   00:01:00fr <ENTER>
 Delete Content: 00:01:00fr <ENTER>        Edit: <UNDO>

TAB:SELECT  <-/->:CHANGE   PgUp:Pg3   F4:SAVE AS   F5:LOAD   ALT+Q:EXIT MULTICAM
```

Parameter	Values/ Range	Default value	Description
Time Code settings:			
Start TC: 10:00:00;00 DF <ENTER>	00:00:00:00 to 23:59:59:29 /DF, NDF	10:00:00:00	Selects the TC of your EditRec Playlist
Preroll: 05;00fr	00s00fr to 59s00fr	05s00fr	Selects the duration of the Playlist Preroll (Need the TC <ENTER>
Edit TC settings:			
Serial Sony LTC: Edit TC	Edit TC	Edit TC	Currently, this setting is locked.
Serial Sony VITC: Edit TC	Edit TC and User TC	Edit TC	Selects the VITC type sent from the server to the EditRec controller.
Insert TC in SDI: YES EDIT TC <ENTER>	Yes or NO Edit TC Or Default	Yes Edit TC	Selects the TC type inserted in the VITC of the SDI OUT of the EditRec PGM*. EditTC : TC of the Playlist Default: TC selected on the *'Setup Configuration'* **It's necessary to configure the VITC generation type to "LTC or VITC" and CleanVBI:Always in the Page 2 of the 'Setup Configuration' menu.*
User TC of created clips : Edit TC	Edit TC and User TC	Edit TC	Selects the TC type inserted into User TC of the created Clips
Playlist Settings:			
Clip name: EditR .	8 characters are modifiable by user. 4 characters	EditR	The name of clips created by EditRec.

Parameter	Values/ Range	Default value	Description
	reserved for the server.		
Clip VARID: EditR6789012 .	24 characters are modifiable by user. 4 characters reserved for the server.	EditR6789012	The VarID of clips created by EditRec0
Load PL: 60 (LSM ID) <ENTER>	10 to 99	60	Loads the selected playlist.
Rename PL: MyEditPLName <ENTER>	12 charact.	EditPLyy	Renames the playlist.
Default PL: 60	10 to 99	60	Chooses the default playlist loaded at start.
Clear PL: 60 EDL + CLIPS <ENTER>	10 to 99 EDL or EDL+CLIPS	Current loaded PL number EDL + CLIPS	Deletes the selected playlist.
CLEAR UNUSED EDITREC CLIP <ENTER>			Deletes all unused EditRec Clips. After Pressing ENTER, it displays a confirmation menu in Red “Do you really want to delete all EditRec clips on local server?”
Close Edit: <APPLY>			Unloads the Playlist and remove the extended BlackClip
Stop behavior : PB	PB/EE	PB	Define the channel behavior when it is in stop => black screen(PB) or EE
EE : OFF <ENTER>	OFF	OFF	Activates the EE
Edit:<UNDO>			Undo allows cancelling

Parameter	Values/ Range	Default value	Description
			the 9 last EditRec actions.
Non-linear Editing at current TC:			
Insert Black: 00:01;00fr <APPLY>	00:00;01fr to 59:59;29fr	00:10:00fr	Inserts a selected duration BlackClip from the current position.
Delete Content: 00:01;00fr <APPLY>	00m00s01fr to 59m59s29fr	00:10:00fr	Deletes the content (selected duration) from the current position.
OSD settings:			
Super : YES			Activates OSD.
Display Sel. : TC Status Name			Selects the displayed information on OSD.
TC H-Pos : 4 Name H-Pos : 0			Selects the horizontal position of TC and Name information.
TC V-Pos : 10 Name V-Pos : 0			Selects the vertical position of TC and Name information.
Audio settings:			
Edit Audio Fade: NO	NO / V-Fade / µMix	NO	Selects the audio effect type applied to the edit (applied in the material of clip).

It is possible to view the content of PL.

Press F10 for display the content of the currently edit playlist (PGM1 Only)

1:NAME CLIP sh+F1:NAME PL F2:CLIP/CAM F3:CALL F6:KW1 F7:KW2 F8:SRCH F9:CPIPS
Clip Name T/C IN Duration Spd VideoFx Split AudFx Cur.Dur.
1 CamZ
2 637E EditRxxx637E 10:00:00:00 00:02:03 100 C 00:00 00:00 00:00 10h00m02
3 638A EditRxxx638A 10:00:02:03 00:03:02 100 C 00:00 00:00 00:00 10h00m05
4 637F »EditRxxx637F« 10:00:05:05 00:02:23 100 C 00:00 00:00 00:00 10h00m08
5 CamZ
emain: 13:58:54:15 Total: 23:58:59:20 Free PLST el. : 15941
AME MODE CAM ALT+P:▶/■ ALT+R:RECUE ALT+N:NEXT ALT+S:SKIP
ELECT PAGE>1< 2 3 4 5 6 7 8 9 0 BANK >1< 2 3 4 5 6 7 8 9 PL

3.2 SPECIAL FUNCTIONS

Several commands have been re-used for other use.

3.2.1 UNDO

Undo function allows canceling up to the last nine edits. This function is accessible through 2 ways:

- F2 menu page (**Edit:<UNDO>**)
- Linear Edit Controller through the use of the "EJECT" command to the "recorder" channel. This will undo the last Edit executed onto the recorder. This is particularly useful in PreRead mode!

3.2.2 NON LINEAR EDITING

From the EditRec Menu :

It is possible to insert Black content inside editing playlist from the current position:

- Select the duration of the insertion through F2 menu page (**Insert Black: 00:01;00fr**)
- Apply the insertion through **<APPLY>**

It is possible to delete content from the current position:

- Select the duration of the deleting through F2 menu page (**Delete Content: 00:01;00fr**)
- Apply the insertion through **<APPLY>**

From a hybrid controller:

EVS added in the protocol an extension which allows non standard command.

It's possible:

- To load a Playlist
- To close a playlist
- To insert clip inside the editing playlist
- To delete content of the editing playlist
- To clear Playlist
- To clear unused EditRec Clip.

For more information, please contact the EVS Support.

4. Third Party Configurations

4.1 BVE 9100

4.1.1 PREROLL

Press “INI” key.

With arrows select Preroll and enter “5:00”.

4.1.2 PORT ASSIGNMENT

Press “INI” key -> F3 “ASSIGN”.

With arrows select the port where are connected the recorder channel and player channel.

For each channel select:

- type of device : “VTR”.
- log ID : P2, P2, P3 (for player channel) or R (for recorder channel).

4.1.3 IDC PARAMETER

EDITREC CHANNEL

Press “Shift” + “Setup” -> F3 “IDC”-> Select the EditRec port ->F1 Machine Parameter Group -> F1 “Constant 1”

and enter the following parameters:

	DATA1	DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8
PAL :	F1	25	00	32	14	14	00	80
NTSC:	F0	25	00	32	14	14	00	80

Press “Shift” + “Setup” -> F3 “IDC”-> Select the EditRec port ->F1 Machine Parameter Group -> F2 “Constant 2”

	DATA1	DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8
PAL :	0C	[02;06]*	FE	00	80	3C	FE	3C
NTSC:	0C	[02;06]*	FE	00	80	3C	FE	3C

**According to the controller*

Press "Shift" + "Setup" -> F3 "IDC"-> Select the EditRec port -> F1 Machine Parameter Group -> F4 "VTR Configuration"

DATA1	DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8
01	00	88	81	03	00	05	00

SONY PLAYER CHANNEL

Press "Shift" + "Setup" -> F3 "IDC" -> Select the server Sony Channel port -> F1 Machine Parameter Group -> F1 "Constant 1"

and enter the following parameters:

	DATA1	DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8
PAL :	21	25	00	32	05	05	00	80
NTSC:	20	25	00	32	05	05	00	80

Press "Shift" + "Setup" -> F3 "IDC" -> Select the server Sony Channel port -> F1 Machine Parameter Group -> F2 "Constant 2"

	DATA1	DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8
PAL :	0C	03	FE	00	80	3D	FE	3C
NTSC:	0C	03	FE	00	80	3D	FE	3C

Press "Shift" + "Setup" -> F3 "IDC" -> Select the server Sony Channel port -> F1 Machine Parameter Group -> F4 "VTR Configuration"

DATA1	DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8
01	00	88	81	03	00	05	00

4.1.4 AUDIO CHANNEL ASSIGN CONFIGURATION

There are 4 keys as audio edit preset on the keyboard of BVE-9100. Physically 2 keys (A1&A2) but Shift enables to reach (A3&A4).

These 4 keys are directly linked to EDL. Display of edit preset information on the monitor is as below.

"VA1234". BVE-9100 can assign up to 4ch of digital audio per 1 key. This assignment is made in menu:

Press "Shift" + "Setup" -> F3 "IDC" -> Select the EditRec port -> F4 Audio Channel Assign

Normal Assign

KEY	D1	D2	D3	D4	D5	D6	D7	D8
1	X							
2		X						
3			X					
4				X				

Assign 2 channels to 1 key by Setup

KEY	D1	D2	D3	D4	D5	D6	D7	D8
1	X	X						
2			X	X				
3					X	X		
4							X	X

Assign particular channel to 1 key by Setup

KEY	D1	D2	D3	D4	D5	D6	D7	D8
1	X	X	X	X				
2					X	X		
3							X	X
4								

Following this assignment, the information DA1 to DA8 and A1 to A2 are sent through the 9-pin RS422 CMD and interpreted by the VTR.

4.2 PLUGIN EDITOR/SONY SWITCHER

4.2.1 SONY SWITCHER

To use the Plug-in Editor, it is necessary to configure several settings in the Sony Switcher:

Page 7355: Port Assignment

Page 7332.1: Input Assignment

Page 7332.3: Embedded Input Filtering (Audio through)

Page 7333.1: Output Assignment

Page 7333.3: Embedded Output Filtering (Audio through)

Page 7322.1: Control Panel Key Assignment

Page 7322.6: Control Panel Name Assignment

Page 5331: External Devices Control (Checking)

For more information, refer to Sony Switcher documentation.

4.2.2 PLUG-IN EDITOR

MAIN SETUP

Press “Ctrl+ Aux” (Setup) -> F3 “SW CTRL”.

Enter the following parameters:

- Control: enable
- Monitoring: PVW Bus
- PW Cuep: Black
- Used region: PIP
- Used PVW bus: Edit PVW
- Snapshot: off
- Auto effect data: off
- Auto video process : off

SETTINGS ASSIGNMENT

Press “Shift + Aux” (INIT) -> F4 “ASSIGN1”.

With arrows select the port where are connected the recorder channel and player channel.

For each channel select:

- Logical ID : R1, P1, P2 ...

Press “Shift + Aux” (INIT) -> F6 “ASSIGN3”.

With arrows select PGM and enter the parameter 124.

IDC PARAMETER

Press “Ctrl+ Aux” (Setup) -> F5 “VTR Control”.

With arrows select the port where are connected the recorder channel and player channel.

For each channel select:

EditRec Channel

Constant1:

	DATA1	DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8
PAL :	F1	25	00	32	14	14	00	80
NTSC:	F0	25	00	32	14	14	00	80

Constant2:

	DATA1	DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8
PAL :	0C	[02;06]*	FE	00	80	3C	FE	3C
NTSC:	0C	[02;06]*	FE	00	80	3C	FE	3C

**According to the controller*

Sony Player Channel

Constant1:

	DATA1	DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8
PAL :	21	25	00	32	05	05	00	80
NTSC:	20	25	00	32	05	05	00	80

Constant2:

	DATA1	DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8
PAL :	0C	03	FE	00	80	3D	FE	3C
NTSC:	0C	03	FE	00	80	3D	FE	3C

AUDIO CHANNEL ASSIGN CONFIGURATION

Press “Ctrl+ Aux” (Setup) -> F2 “Audio Assign”.

Assign ‘F’ key to Audio tracks.

The Plug-in Editor supports until 16 audio tracks.

PREROLL

Press “Shift + Aux” (INIT) -> F1 System.

With arrows select Preroll and enter “5:00”.

Instant Tapeless Technology

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